BARLEY MARKET VALUE CHAIN PROFILE

2012

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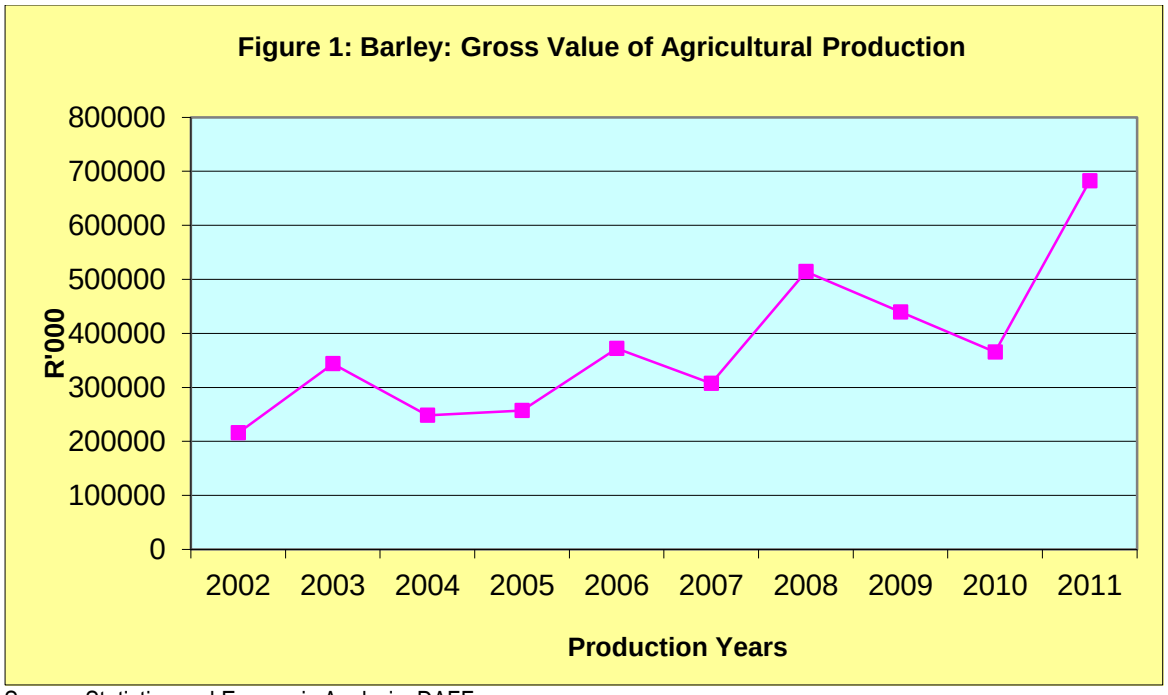
1. DESCRIPTION OF THE INDUSTRY

After wheat, barley *(Hordeum vulgare L.)* is the most important small grain in South Africa. It is mainly used for production of malt (which is used for brewing of beer), animal feed and pearl barley. A very small part of the South African barley crop is generally less suitable for malting purposes and as such is used for animal feed. On average the annual commercial production in South Africa is about 220 000 tons while the local consumption requirements for barley are around 265 987 ton per year.

The contribution of the barley industry to the gross value of agricultural production is summarized in Figure 1.

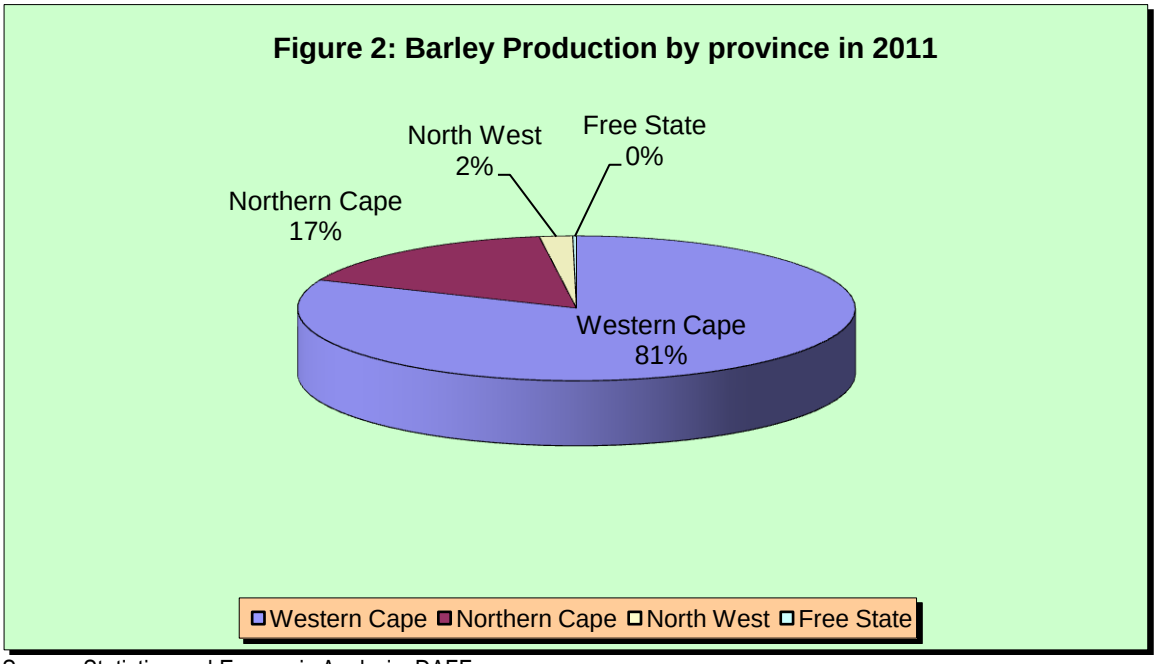


Source: Statistics and Economic Analysis, DAFF

Figure 1 indicates that the contribution of the barley industry to the gross value of agricultural production was at its lowest level in 2002 mainly as a result of the decline in production volumes while the prices remained relatively stable at that period. The industry's contribution to the gross value of agricultural production increased dramatically in 2003 as a result of an increase in producer prices and production volumes at that period. The gross value started to decline from 2004 until 2005 due to a decline in production volume. However, the gross value increased again between 2006 and 2008 despite relatively lower production volumes, mainly as a result of improved producer prices. The contribution of barley industry to the gross value of agricultural production declined slightly during the years 2009 and 2010 following a decline in both production volumes and producer prices. The contribution of the barley industry to the gross value of agricultural production increased dramatically during the year 2011 and this can be attributed to a slight increase in both production volume and producer prices for the product during the same year.

1.1 Producing Areas

Barley is a winter cereal crop whose production is restricted to specific areas in the Northern and Southern Cape (two-thirds of our barley production happens here) as well as the North West province. In the Southern Cape (Overberg region) barley is grown in areas surrounding Caledon, Bredasdorp, Riviersonderend, Napier and Swellendam and is grown under dry land conditions and in the Northern Cape under irrigation (Vaalharts Douglas, Barkley West, Rietrivier and Hopetown area). Barley is also grown by some emerging farmers at Taung in the North West province. In the Northern Cape and North West provinces, barley production takes place close to stable water sources namely the Vaal River, Harts River, Orange River and the Vaalharts Irrigation scheme. The main world barley producers are Russian Federation followed by Canada, Germany, France, Australia, Turkey and Ukraine respectively. In Africa, barley is produced mainly in Ethiopia, followed by Morocco, Algeria and South Africa respectively. Contribution of various provinces to the total South African barley production is presented by Figure 2.



Source: Statistics and Economic Analysis, DAFF

Figure 2 indicates that during 2011 the Western Cape province remained the largest producer of barley in South Africa with a share of 81% followed by the Northern Cape and North West Provinces with shares of 17% and 2% respectively. The larger barley production volumes in the Western Cape can be attributed to the fact that the latter is a winter rainfall area, which makes the province a suitable location for production of barley and other winter cereals.

Table 1 below confirms the earlier observation that Western Cape province is to largest producer of barley in South Africa. The production of barley in the province fluctuates between 110 thousand and 245 thousand tons per annum. During the year 2011, barley production volumes in the Western Cape province have, for the first time in a decade, reached 200 thousand tons and

contributed significantly towards an increase in national production. It is also clear from the table that barley production volumes were generally on the increase during the year 2011 in all barley producing provinces.

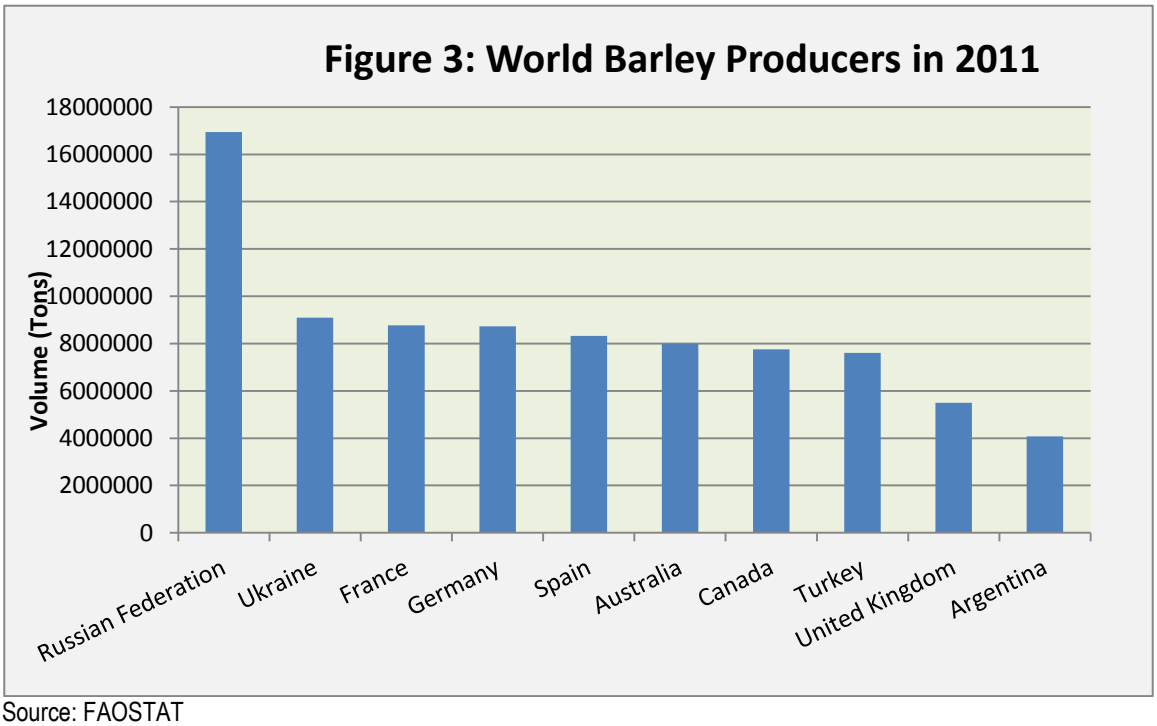
Table 1: Barley Production by provinces

Province	Production in 2006 (tons)	Production in 2007 (tons)	Production in 2008 (tons)	Production in 2009 (tons)[1]	Production in 2010 (tons)	Production in 2011 (tons)
Western Cape	169 000	152 000	110 000	161 650	142 660	244 800
Northern Cape	58 000	60 000	70 480	47 600	45 050	49 680
North West	8 000	9 100	10 000	6 530	5 470	5 780
Free State	1 000	1 400	1 520	220	820	650

Source: Statistics & Economic Analysis, DAFF

1.2 Production Trends

Figure 3 presents the major producers of barley in the world during 2011.

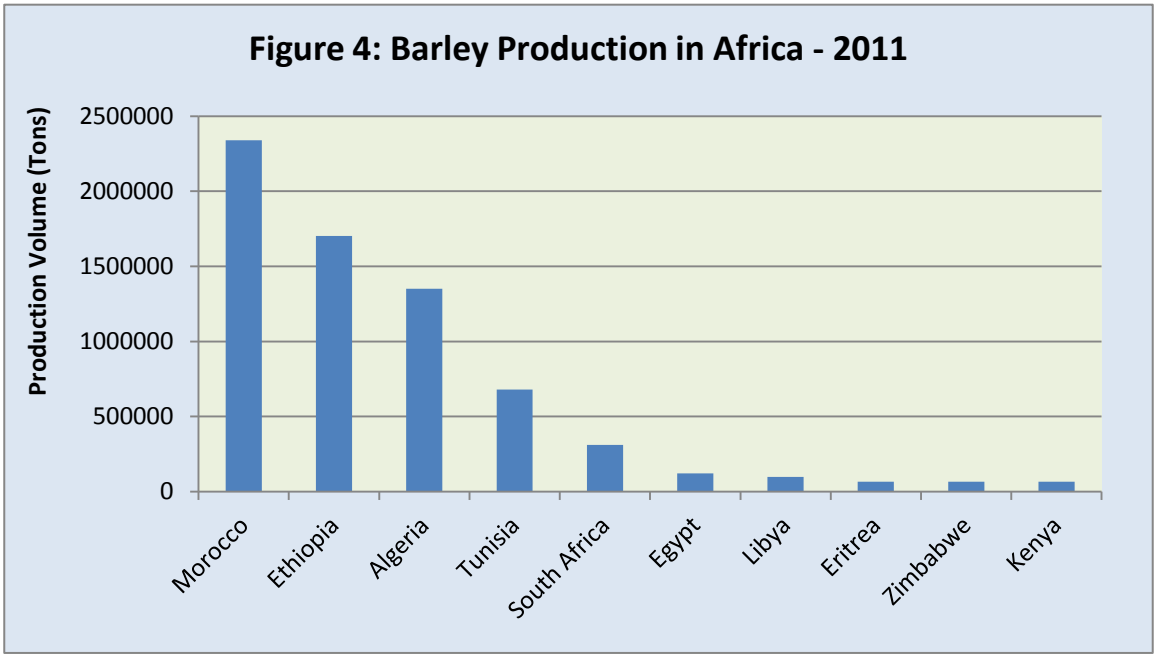


Source: FAOSTAT

Figure 3 indicates that the major producers of barley in the world during the year 2011 were Russian Federation, Ukraine, France, Germany, Spain, Australia and Canada. Russian Federation produces the greatest quantities of barley with an estimated production of approximately 16.94

million tons followed by Ukraine with a production of about 9.1 million tons in 2011. Of all countries that produce barley, the least producer of barley is Bangladesh, which produced only 484 tons of barley in 2011. South Africa is ranked number 50 in the world in terms of barley production and produced only 314 thousand tons of barley during the year 2011.

On the African continent, the top barley producers for the year 2011 were Morocco, Ethiopia and Algeria having produced 2.3 million, 1.7 million and 1.4 million tons respectively in 2011 (see Figure 4). These countries are followed by Tunisia and South Africa who produced about 680 thousand tons and 312 thousand tons respectively, during the same period. Of all countries that produce barley on the African continent, Lesotho is the least producer after producing only 588 tons in 2011.



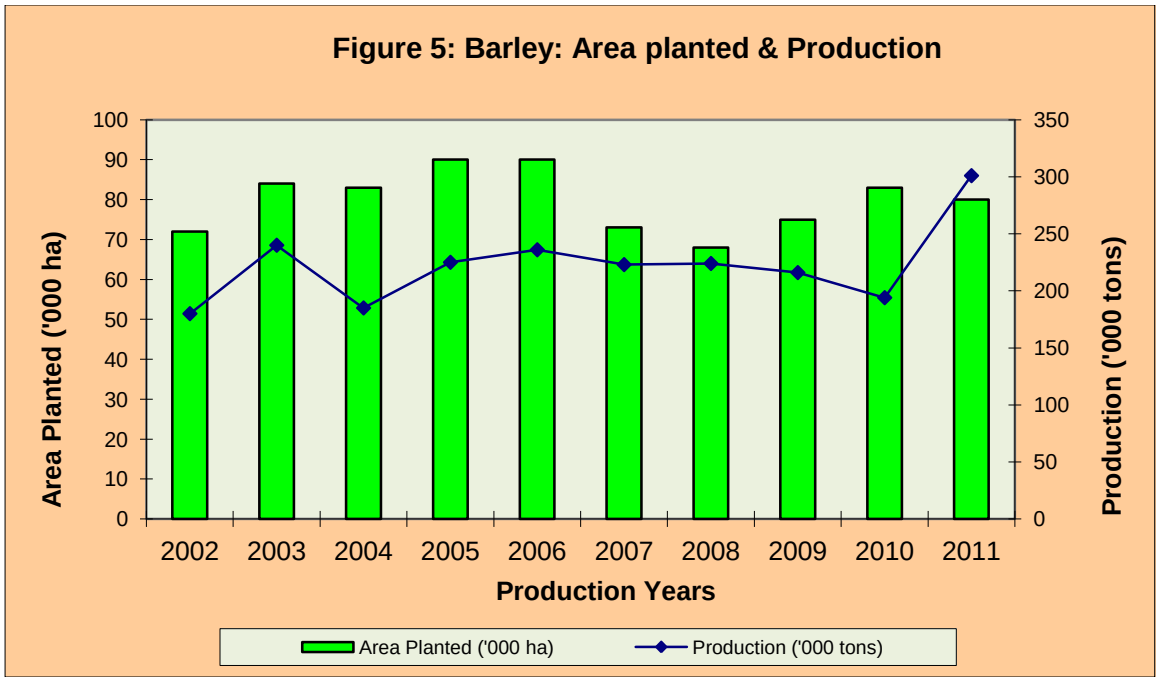
Source: FAOSTAT

Domestic barley production trends and areas planted to barley in South Africa from 2002 to 2011 are represented by Table 2 and Figure 5.

Table 2: Barley: Local Area Planted and Total Local Production

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Area Planted (1000 ha)	72	84	83	90	90	73	68	75	83	80
Total Production (1000 tons)	180	240	185	225	236	222	189	216	194	312

Source: Statistics and Economic Analysis, DAFF

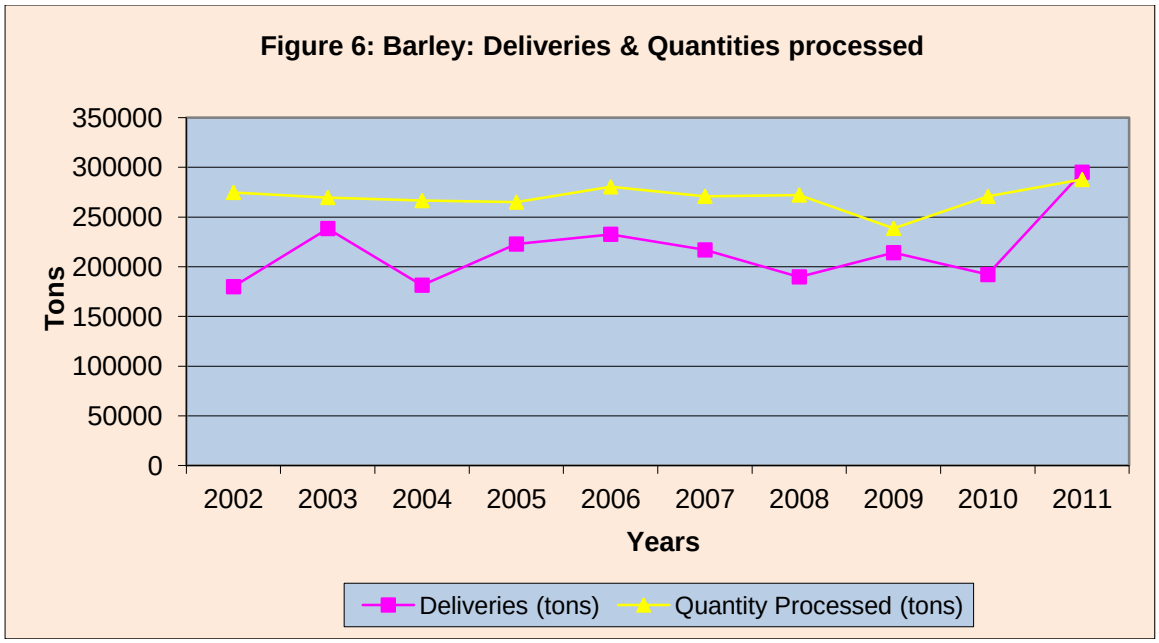


Source: Statistics & Economic Analysis, DAFF

Table 2 and Figure 5 indicate that area planted to barley and production volume were relatively lower during the year 2002 and this was followed by a slight increase in plantings and production volume during the year 2003. In 2004, the production volume decreased following a slight decline in area planted. Production quantities increased between 2005 and 2006, as a result of an increment in area planted. Both the area planted to barley and the total production declined between 2007 and 2008 in spite of increases in the producer prices during these years. Barley production volumes increased substantially in 2009 compared to 2008, mainly as a result of improved yields and increment in production volumes in the major producing Province (Western Cape). The production volume increased significantly during the year 2011 despite a slight decline in area planted mainly as a result of improved productivity (yields) on the part of farmers.

1.3 Local Consumption

Figure 6 depicts local consumption of barley comparing it to the total production for each year to determine if the country is self-sufficient in terms of barley or not.



Source: Statistics and Economic Analysis, DAFF

Figure 6 indicates that between the years 2002 and 2010 South African barley supply was lower than local consumption. In general, Figure 6 indicates that in South Africa more barley is consumed than it is produced and this makes it extremely important for our country to import barley. During the year 2002, domestic deliveries of barley were extremely lower compared to quantities of barley processed within the domestic market. Domestic deliveries began showing increases from 2003 until 2006 triggered mainly by slight increases in the area planted and total barley production. However, deliveries of barley experienced a marginal decline again during 2007 and 2008 followed by a slight increase in 2009. The implication is that the market for barley in South Africa is huge though the production volumes are low and this makes it clear that the country needs to come up with ways to improve production of this product. Of importance to note is that producer barley supply increased dramatically during the year 2011 and during that year the producer deliveries were, for the first time, greater than the amounts processed in the local market.

2. MARKET STRUCTURE

2.1. Domestic Market and Prices

In South Africa barley is planted mainly for malting purposes, as there is no significant feed market for barley due to the oversupply of maize produced in the country. Barley differs from most other agricultural commodities in that there is only one major barley buyer in South Africa, namely South African Breweries Malting (Pty) Ltd, which supplies its major stakeholder South African Breweries, with malted barley. Barley producers have a guaranteed market and fixed price contracts.

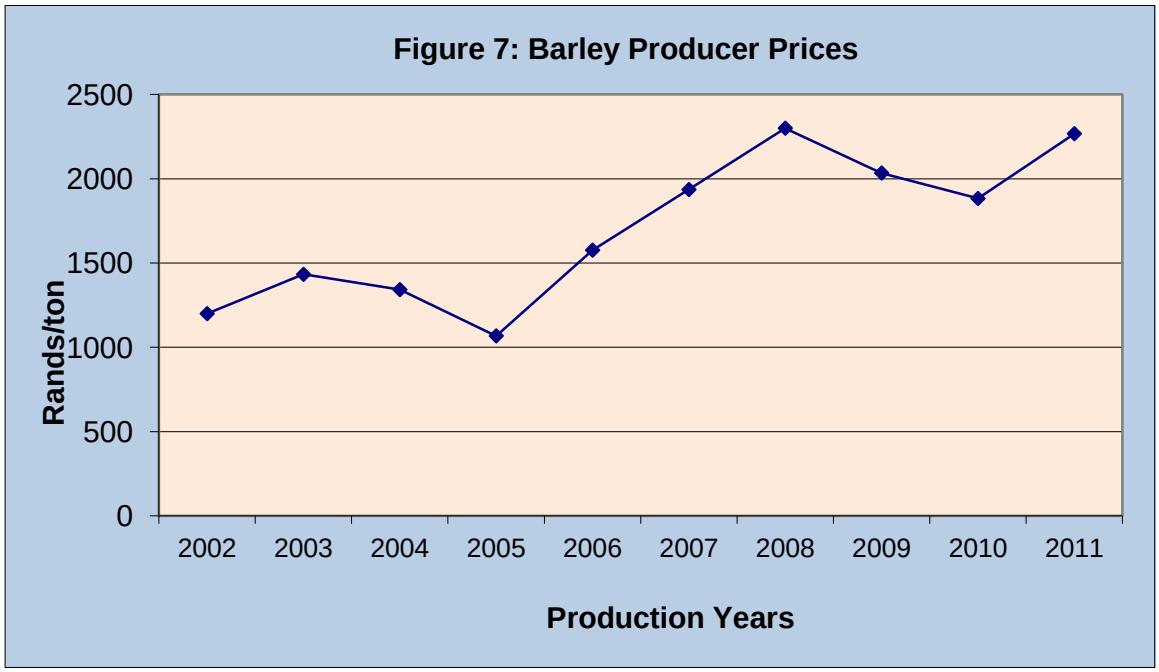
Average producer prices for barley from the year 2002 to 2011 are as depicted in Table 3 and Figure 7 below.

Table 3: Barley Producer Prices

Marketing Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Producer Prices (R/ton)	1200	1433	1342.30	1067.98	1578.79	1936.05	2300.02	2034	1883	2268

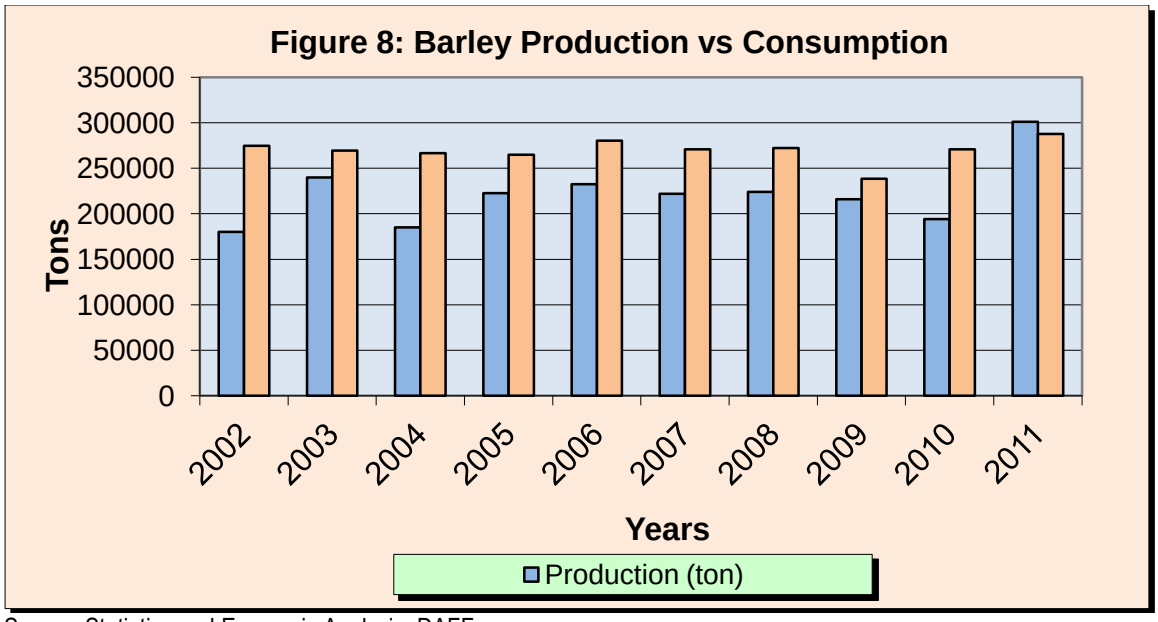
Source: Statistics and Economic Analysis, DAFF

Table 3 and Figure 7 indicate that barley producer prices increased from 2002 to 2003 mainly as a result of a decline in the value of rand against US dollar. Generally, price fluctuations for the past five years can be attributed to fluctuations in production volumes which occurred mainly as a result of variable weather conditions. However, barley producer prices experienced an increase from 2006 to 2008 marketing years following a slight decrease in the domestic production levels.



Source: Statistics and Economic Analysis, DAFF

Barley producer prices declined marginally from R2300.02/ton in 2008 to R2096.96/ton in 2009. Prices declined further during the year 2010 and this could be attributed to a massive decline in local demand for barley. Producer price for barley increased slightly during the year 2011. Figure 8 below illustrates volumes of barley production and consumption in South Africa during the past ten years.



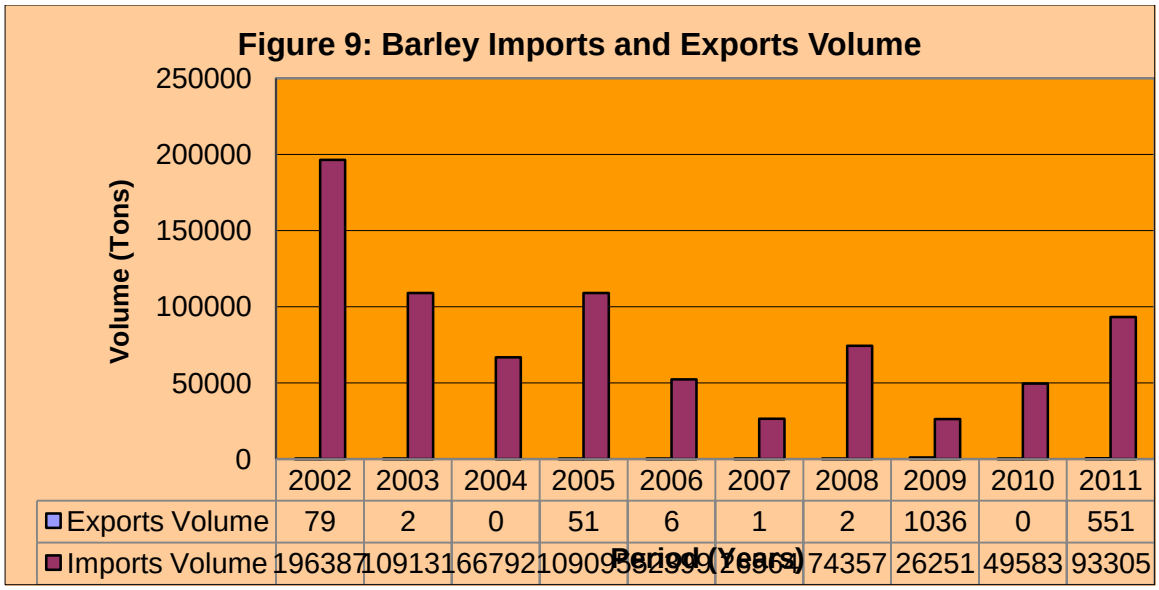
Source: Statistics and Economic Analysis, DAFF

The figure above clearly indicates that domestic production for barley in South Africa has been far below the domestic consumption[1] requirements between the years 2002 and 2010. Despite higher levels of demand for barley, the South African Farmers have not been able to respond and meet the local demand mainly due to the fact that the most part of South Africa is not suitable for barley production. Dry-land barley production can only be practiced in the Western Cape Province due to suitable climatic conditions in the province. This on its own is a great limitation for the expansion of the industry as all other regions in the country can only produce barley under irrigation. The domestic barley production experienced a dramatic increase and reached the highest level (300 thousand tons) during the year 2011.

2.2. Import-Export Analysis

Figure 9 compares the volumes of imports and volumes of exports of barley from 2002 to 2011. Figure 9 indicates that for the period under analysis, South Africa was the net importer of barley as indicated by the figure. This means that we use more barley than we produce in our country and this could be because in South Africa barley is planted only for malting purposes where there is only one major buyer (SAB Maltings) and farmers find it too risky to participate in such a market since they know that failure to meet SAB quality requirements would mean no or narrow market for their products.

[1] Consumption includes animal consumption

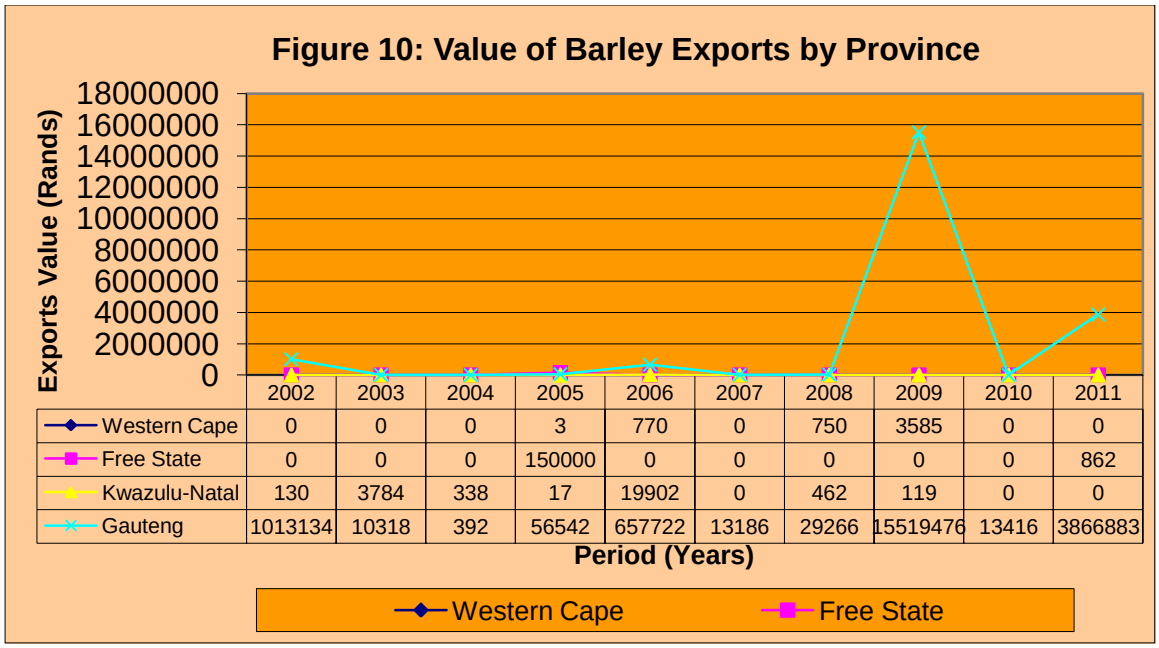


Source: Statistics and Economic Analysis, DAFF

Figure 9 indicates that the period under analysis opened with massive volume barley imports during the year 2002 and this was followed by a decline in import volume between the years 2003 and 2004. The volume of imports fluctuated considerably throughout the period under analysis and closed at a moderate level during the year 2011. Also observable from the figure is the fact that exports of barley have been very low during the period under analysis and this is due to lower levels of local production.

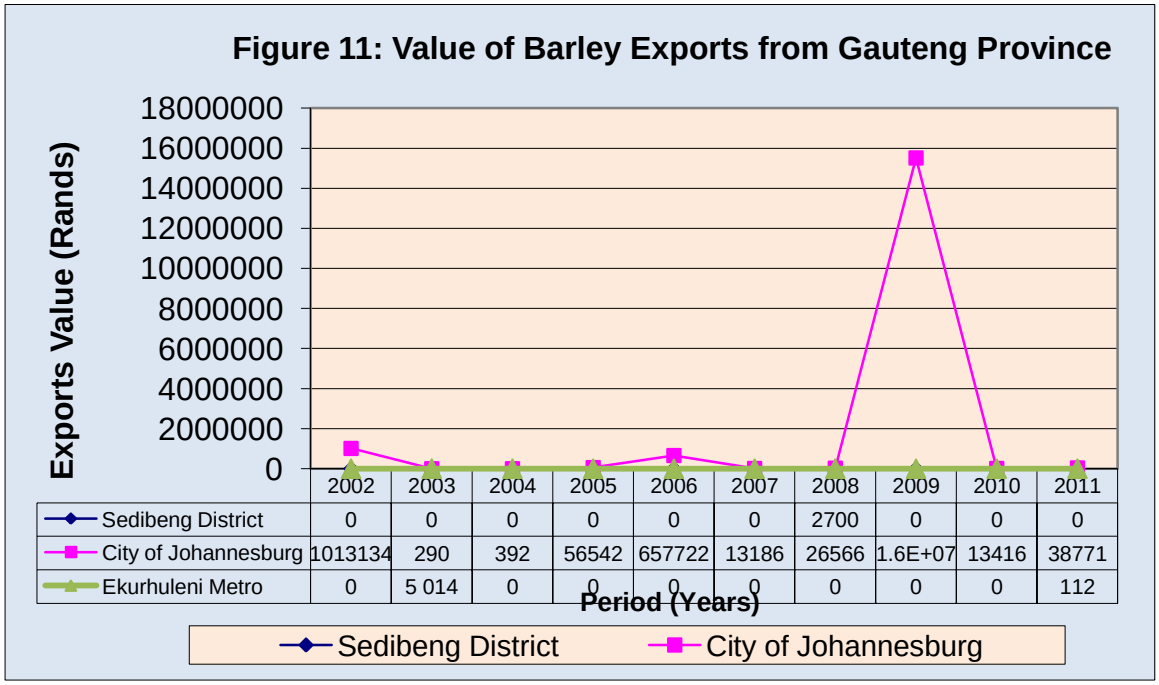
2.2.1. Provincial Exports

Values of barley exports by various provinces are depicted in Figure 10. Although it does not form part of the main producers of barley, the Gauteng province is indicated in Figure 10 as the major exporter of barley in South Africa. This is mainly as a result of availability suitable infrastructure for storage and value adding facilities in the Gauteng province which attracts many producers to transport their products to this province after harvest. KwaZulu-Natal and Western Cape provinces also take part in the exportation of barley mainly because of availability of harbors in these provinces which serve as an overpass for barley exports to other countries, but exports from these provinces are minimal. Figure 10 also indicates that exports from Western Cape, Free State and Kwazulu-Natal were very low and erratic over the period under analysis.



Source: Quantec EasyData

The values of barley exports from the Gauteng province which is the main exporter of barley in South Africa are indicated in Figure 11.



Source: Quantec EasyData

In the Gauteng province, the City of Johannesburg Metropolitan Municipality played a major role in exportation of barley between the years 2002 and 2011. The value of barley exports from the Gauteng province was higher in 2002 and began to decline immediately after 2002. These declines are in tandem with the general decrease in the total production of barley in the domestic market.

Exports of barley from Gauteng Province increased significantly during the year 2009, particularly from City of Johannesburg, mainly as a result of improved local production. This was followed by a sharp decline during the year 2010 after which the value of barley exports remained very low until the end of 2011.

2.2.2 Share Analysis

This section reviews the analysis made on contribution of various provinces to the country's total barley exports and contribution of various districts to provincial exports. Table 4 illustrates the contributions of various provinces to the total value of barley exported by South Africa during the last decade.

Table 4: Share of provincial barley exports to the total South African Barley exports (%)

Year / Province	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Western Cape	0.00	0.00	0.00	0.00	0.11	0.00	2.46	0.02	0.00	0.00
Free State	0.00	0.00	0.00	72.62	0.00	0.00	0.00	0.00	0.00	0.02
KwaZulu-Natal	0.01	26.83	46.30	0.00	2.93	0.00	1.51	0.00	0.00	0.00
Gauteng	99.99	73.17	53.70	27.37	96.95	100	96.02	99.98	100	99.98

Source: Calculated from Quantec EasyData

Table 4 indicates that between the years 2002 and 2004 and again between 2006, 2010 and 2011, Gauteng province commanded a greater share of barley exports followed by the KwaZulu-Natal province. This is the indication that the greatest percentage of barley exports is recorded as originating from the Gauteng province and partly from the KwaZulu-Natal province despite the fact that the Gauteng province does not form part of the main producing areas for barley. The implication is that Western Cape and the Free State provinces transport their barley to the Gauteng for value adding before exportation and trade arrangements for these products are done by the traders in the Gauteng province. The contributions of various districts to the total value of barley exports in Gauteng are depicted in Table 5.

Table 5: Share of District barley exports to the total Gauteng Barley Exports (%)

Year / District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sedibeng	0.00	0.00	0.00	0.00	0.00	0.00	9.23	0.00	0.00	0.00
Ekurhuleni	0.00	94.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
City of Johannesburg	100	5.47	100	100	100	100	90.77	100	100	99.70

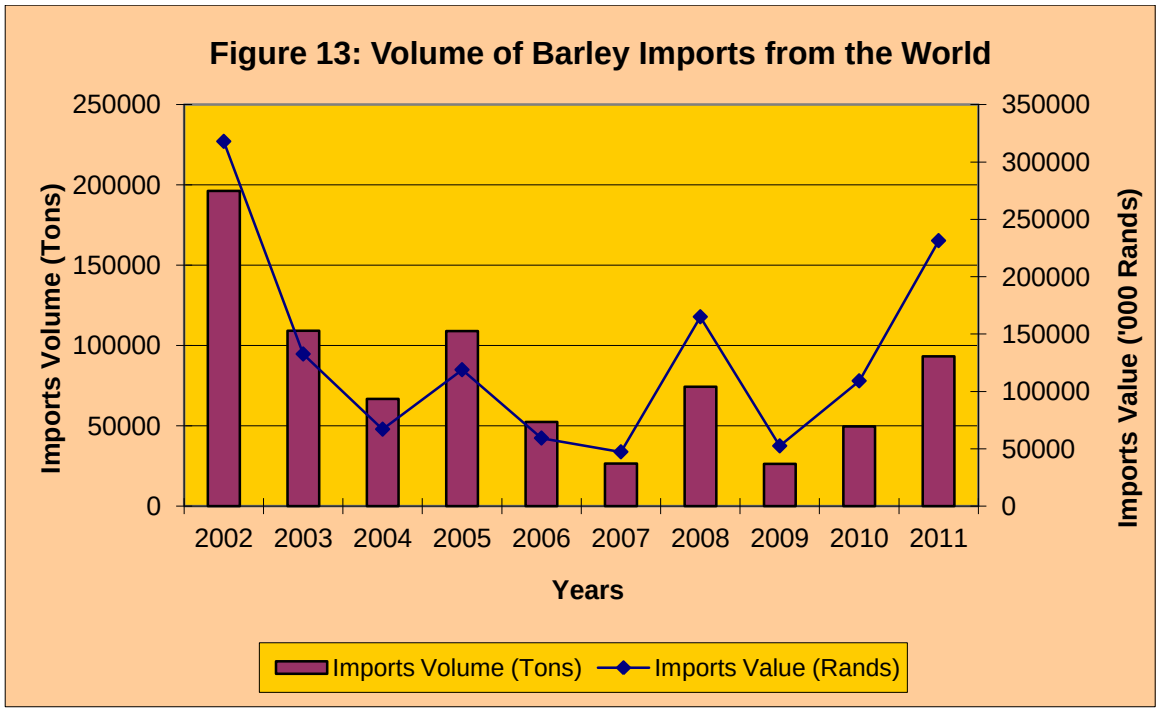
Source: Calculated from Quantec EasyData

Table 5 indicates that between the years 2002 and 2011 the City of Johannesburg Metropolitan Municipality commanded a greater share of Gauteng Province's barley exports with the exception of the 2003 year when Ekurhuleni district accounted for about 97% of the value of barley exports

from the Province. The reason behind City of Johannesburg's dominance in the exportation of barley is availability of suitable infrastructure in the district making it easier for the district to deal with larger volumes of agricultural products.

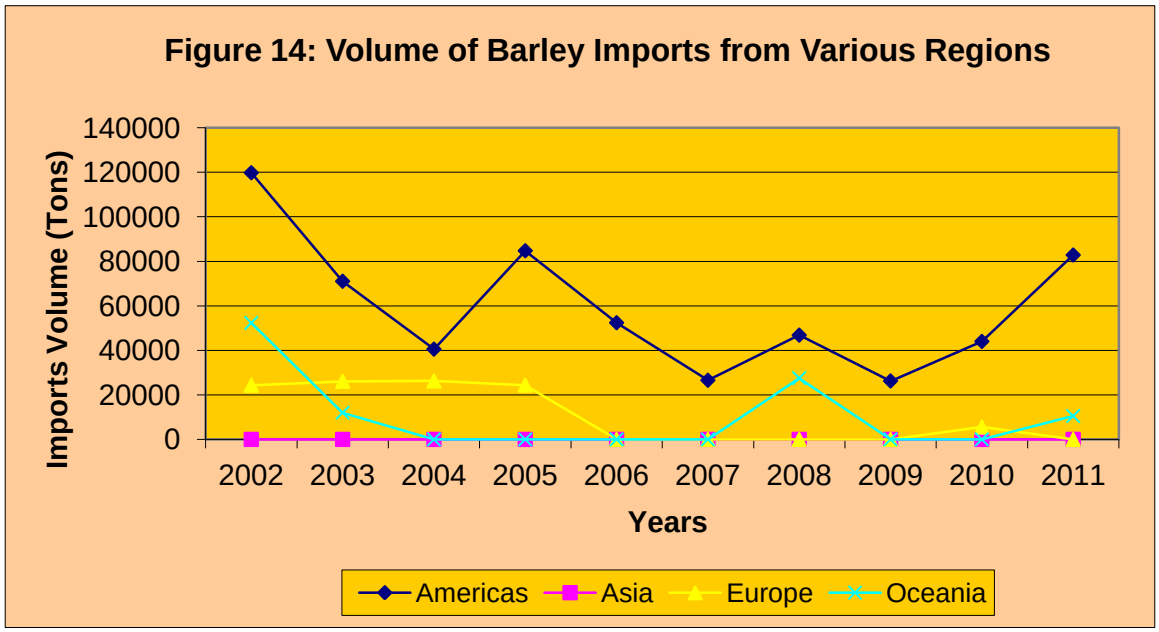
2.3. Imports

South African barley processors depend mainly on barley imports to successfully carry out their daily operations and as such South Africa imports an average of about 121 thousand tons of barley per annum. Over the past five years, variability in rainfall has caused fluctuations in barley quality and yields in South Africa. When the local crop has fallen short of requirements, the local malting companies relied on imports mostly originating from Canada and to a lesser extent from the EU and Australia. The volumes of barley imports from 2002 to 2011 pursue the pattern which is shown in figure 13 below.



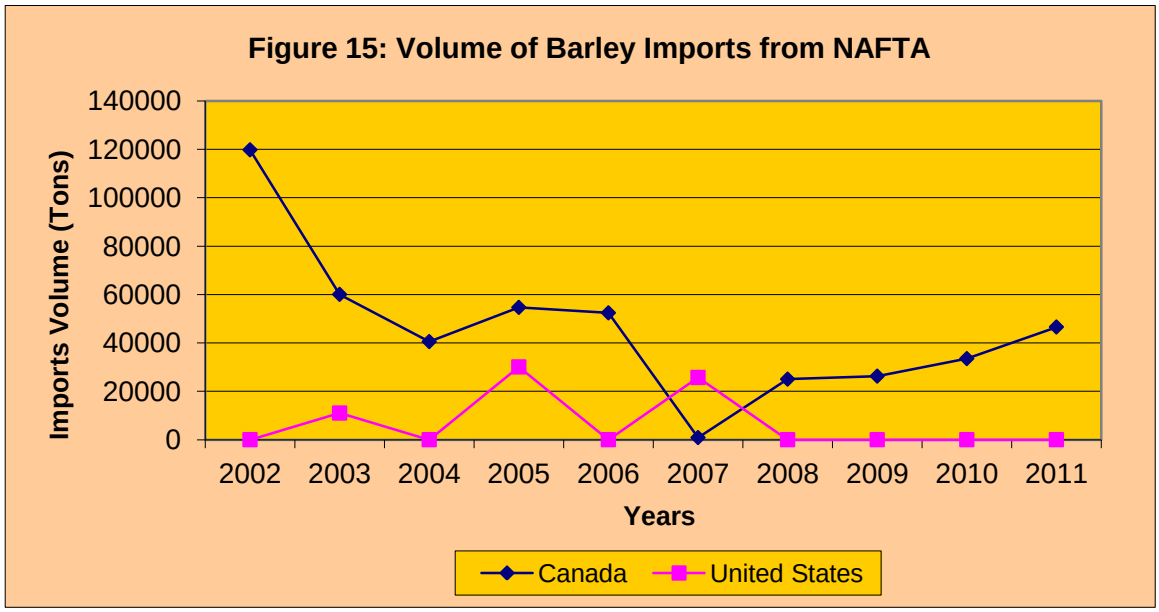
Source: Quantec EasyData

Figure 13 indicates that barley imports (in terms of both value and quantity) into South Africa from 2002 to 2005 were considerably higher. Considerable declines in both the volume and value of barley imports occurred between the years 2006 and 2007, followed by a marginal increase in 2008. This is mainly because in South Africa barley consumption is more than production which makes it extremely important for South African processors to import barley from other countries at all times. Barley imports declined significantly in 2009 in response to higher production volumes, followed by a slight increases during the year 2010 and 2011.



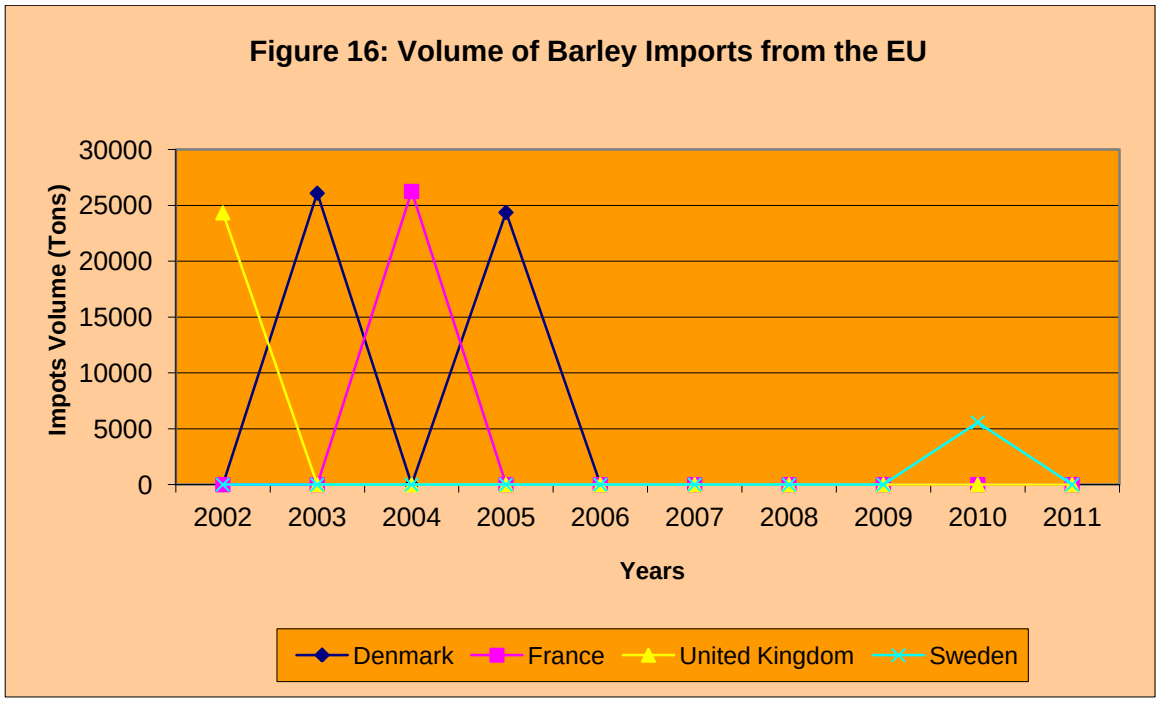
Source: Quantec EasyData

Figure 14 indicates that South Africa imports barley mainly from the Americas, Asia, Europe and Oceania. Imports of barley from the Americas were at the highest level during the year 2002 and this was followed by a slight decline between the years 2003 and 2004. Generally the Americas remained the largest exporter of barley to South Africa over the past decade followed by Oceania and Europe. During the year 2002 South Africa imported some reasonable volumes of barley from Oceania and the imports from this region declined from 2002 until 2007. Imports of barley from the rest of the world declined during the year 2009 mainly as a result of higher levels of local production at the time. Volumes of barley imports from NAFTA states are shown in Figure 15.



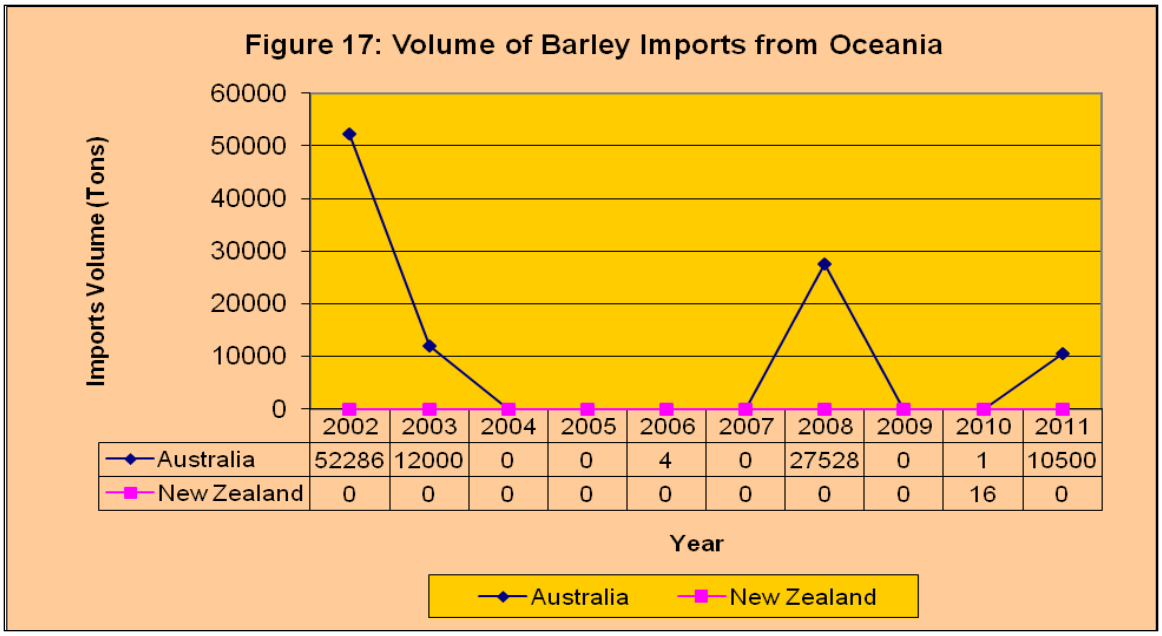
Source: Quantec EasyData

In the North American Free Trade Area (NAFTA) South Africa sourced its imports of barley mainly from Canada between the years 2002 and 2011 while some imports were also obtained from the United States of America between 2003 and 2007. South Africa did not import any barley from the USA between the year 2008 and 2009. Volumes of barley imports from the EU are depicted in Figure 16.



Source: Quantec EasyData

In the EU South Africa imports barley mainly from Denmark, France and United Kingdom. From 2002 to 2006 barley imports originated from Denmark, France and the UK as shown in Figure 16. Imports of barley from the EU into South Africa decreased substantially between 2007 and 2009 and were replaced by imports from Oceania. During the year 2010 our main market for barley imports in the EU was Sweden while at the same time barley imports from other EU countries vanished in 2011. Volumes of barley imports from Oceania are presented in Figure 17.



Source: Quantec Easy Data

In Oceania South Africa imports barley from Australia, with smaller quantities originating from New Zealand. The volume of barley imports originating from Australia decreased substantially from 2002 until the lowest levels were attained between 2004 and 2007. During 2008, the volume of barley imports originating from Australia increased considerably, replacing those from other regions such as the EU and NAFTA, and dropped to zero in 2009. Imports of oats from Australia increased slightly to close higher at about 10 thousand tons during the year 2011.

2.4. Processing

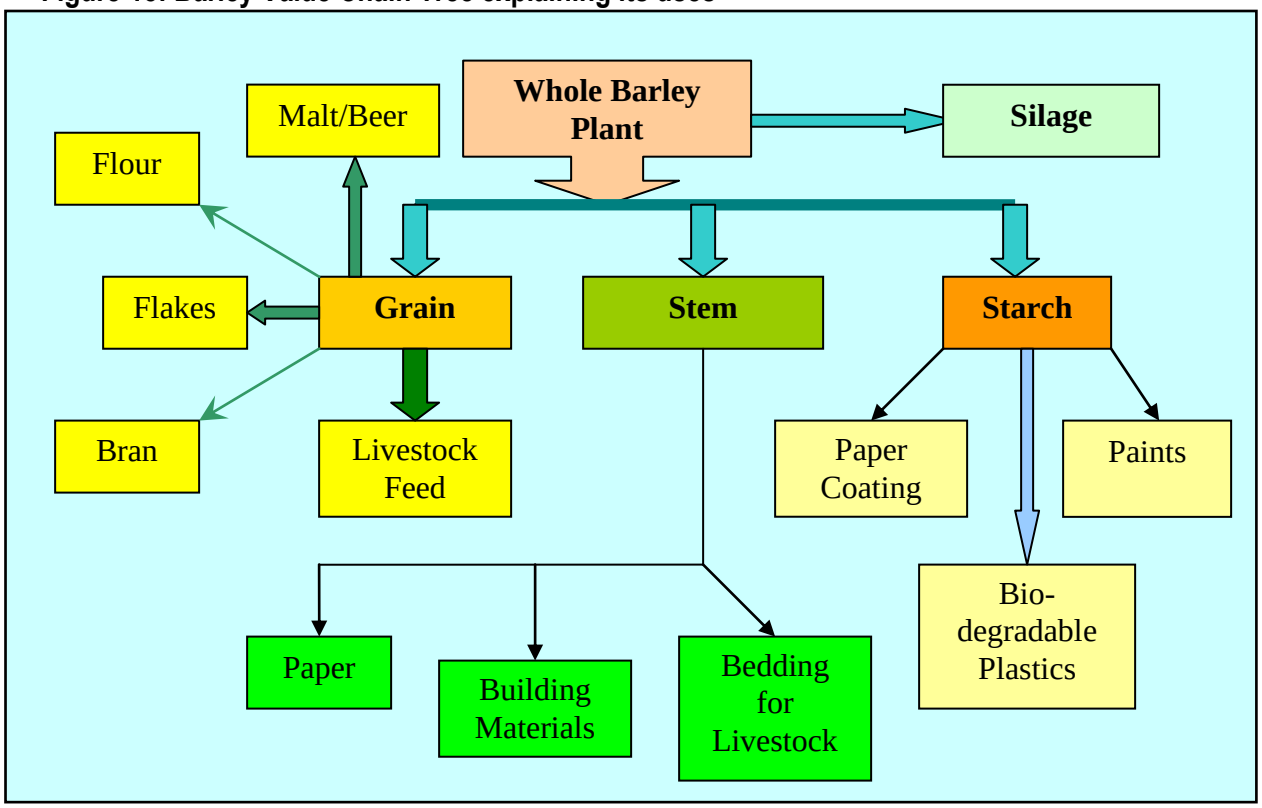
Malting barley is a particular type of barley used in making beer, flavourings, and extracts. Only a portion of the malting barley planted each year has the specific qualities needed to be selected for malt. To produce malt, barley kernels are soaked, germinated, and dried. Although the kernels look the same on the outside, this process causes chemical changes inside. The malted barley can now be used to make malt extract, beer and flour. Like regular barley, hulless barley does have a hull, but it is only weakly attached to the kernel and therefore easily removed during harvesting. The hull is the inedible outer coating of the kernel that protects the seed like a jacket. Hulless barley is convenient and is becoming increasingly popular both for human nutrition and as feed for livestock.

Barley grain may be milled to produce barley flour, flakes, and bran. Milling involves crushing the seed kernel and separating the outside (bran) from the endosperm, which is the inside part of the kernel where food is stored to nourish a new plant. The endosperm is then ground to make flour. To improve its digestibility, barley grain is cracked or rolled for cattle feed and ground to make feed for hogs and chickens.

Barley straw is the dried stems of the barley plant after the head that holds the grain kernels has been removed. Straw is often used as a soft, dry bed for livestock. It can also be made into building

materials, paper and fiber board. To make silage, the entire plant is cut down, piled, compacted, and then allowed to ferment. Fermentation preserves this highly nutritious feed for beef and dairy cattle. Figure 18 depicts the barley value chain tree which explain the various uses of barley.

Figure 18: Barley Value Chain Tree explaining its uses

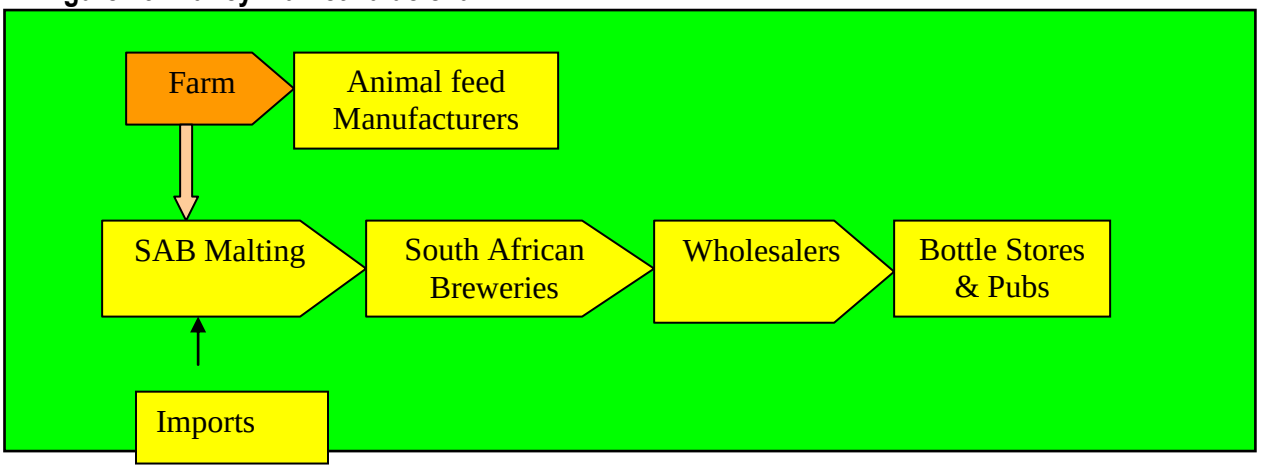


Source: Alberta Barley Commission

2.5 Barley Market Value Chain

Figure 19 presents the barley market value chain, starting from the farm until it is consumed as beer in pubs and restaurants.

Figure 19: Barley market value chain



2.5. MARKET INTELLIGENCE

2.5.1 Tariffs

There is no import tariff charged for barley imports into South Africa from other countries. This is due to the fact that South Africa is a net importer of barley and it is considered that imposing an import tariff would make it expensive to import.

Table 6 shows the tariffs that are applied by Tanzania to the imports of barley originating from South Africa during the year 2011:

Table 6: Tariffs applied by Tanzania to barley originating from South Africa

HS code	Product description	Trade regime description	Applied tariffs 2011	Ad valorem equivalent of specific applied tariffs 2011
10030010	Barley specially prepared for sowing	MFN duties (Applied)	0.00%	0.00%
10030090	Barley: Other	MFN duties (Applied)	25.00%	25.00%

Source: ITC Market Access Map

Tanzania does not have any import duty on imports of barley seed originating from South Africa and the rest of the world. However, the Tanzanian government levies a duty of about 25% *ad valorem* on imports of other forms of barley originating from the rest of the world including South Africa.

Table 7 shows the tariffs that are applied by Belgium to the imports of barley originating from South Africa during the year 2011.

Table 7: Tariffs applied by Belgium to barley originating from South Africa

HS Code	Product Description	Trade Regime description	Applied tariffs 2011	Ad valorem equivalent of specific applied tariffs 2011
1003001000	Barley: seed	MFN duties (Applied) Preferential tariff for RSA	113.53 $/Ton 0.00%	16.47% 0.00%
1003009000	Barley (excl. seed)	MFN duties (Applied) Preferential tariff for RSA	113.53 $/Ton 0.00%	49.19% 0.00%

Source: ITC Market Access Map

Table 7 above indicates that Belgium applies a tariff of 113.53 $/Ton on barley imports originating from the rest of the world. Belgium applies no tariffs on Barley imports originating from South Africa as Belgium is a member state of the European Union and therefore a party to the a Free Trade agreement that exists between South Africa and European Union.

Table 8 shows the tariffs applied by Kenya to imports of barley originating from South Africa during the year 2011.

Table 8: Tariffs applied by Kenya to barley originating from South Africa

HS code	Product description	Trade regime description	Applied tariffs 2011	Ad valorem equivalent of specific applied tariffs 2011
10030010	Barley specially prepared for sowing	MFN duties (Applied)	0.00%	0.00%
10030090	Barley: Other	MFN duties (Applied)	25.00%	25.00%

Source: ITC Market Access Map

Kenya does not have any import duty on imports of barley seed originating from South Africa and the rest of the world. However, the Kenyan government levies a duty of about 25% *ad valorem* on imports of other forms of barley originating from the rest of the world including South Africa.

2.5.2 Performance Analysis

Table 9 presents the various countries that exported barley to South Africa in 2011.

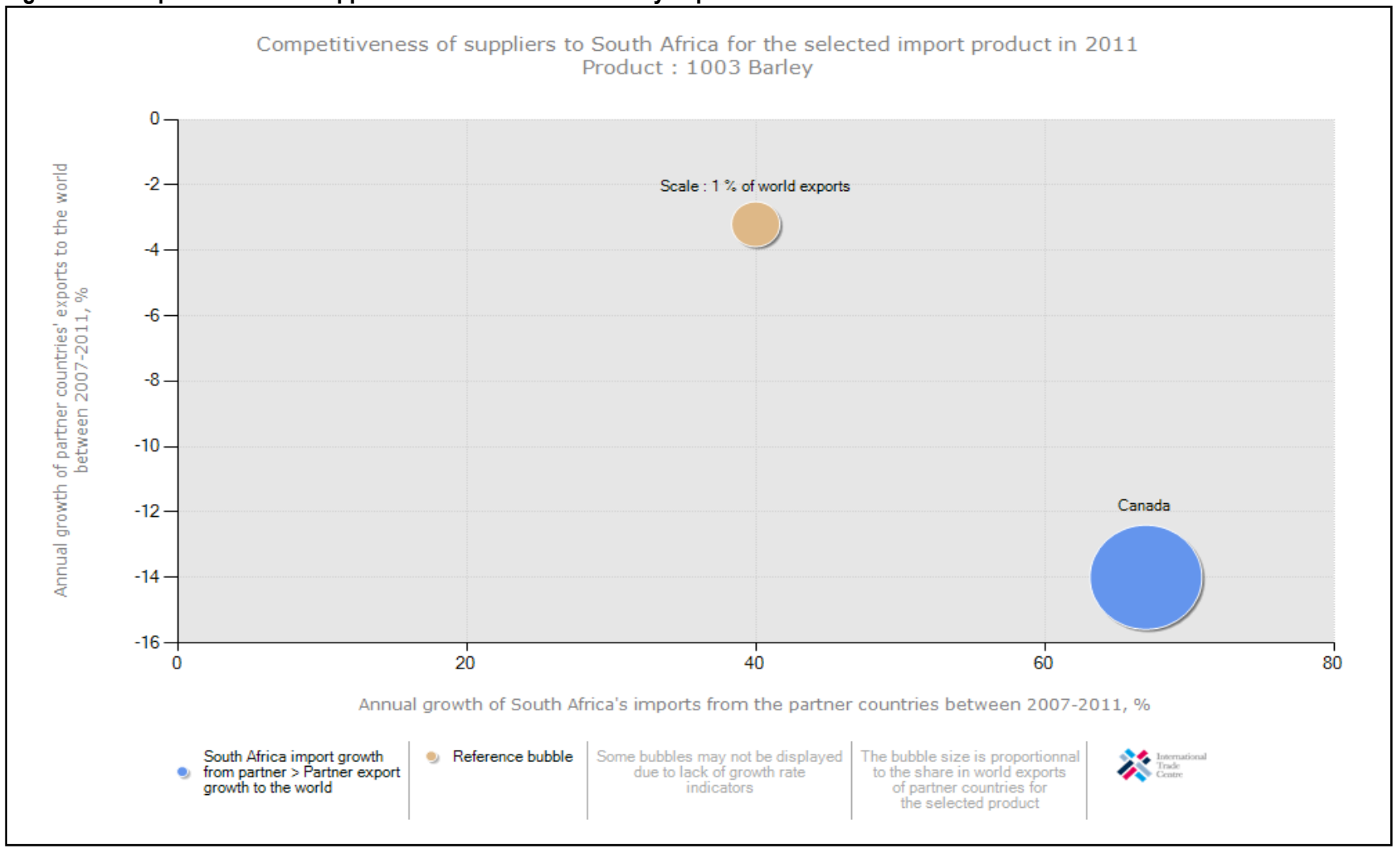
Table 9: Barley imports during 2011

Exporter	Imported value 2011 (thousand US$)	Share in SA's imports (%)	Imported quantity in 2011 (tons)	Unit value (US$/unit)	Import growth in value between 2007 - 2011 (% p.a.)	Import growth in quantity between 2007 - 2011 (% p.a.)	Import growth in value between 2010 - 2011 (% p.a.)
World	31 844	100	93.31	341	33	23	113
Canada	17 744	55.70	46.55	381	67	128	110
Argentina	10 676	33.5	36.25	295	-	-	161
Australia	3 400	10.70	10.50	324	-	-	-
Japan	19	0.1	1	19 000	-	-	-
United Kingdom	4	0	4	1 000	-	-	-

Source: ITC Trade Map

Table 9 indicates that during 2011 South Africa imported a total of 31 844 tons of barley from the world, which represented an increase of 93.31% in quantity compared to what was imported during the year 2011. These imports originate mainly from Canada and Argentina. During the year 2011, Canada alone accounted for 55.70% of South Africa's total barley imports followed by Argentina with 33.50%. With regard to exports, the major importers of barley exported by South Africa in 2011 are Kenya, Tanzania and Belgium.

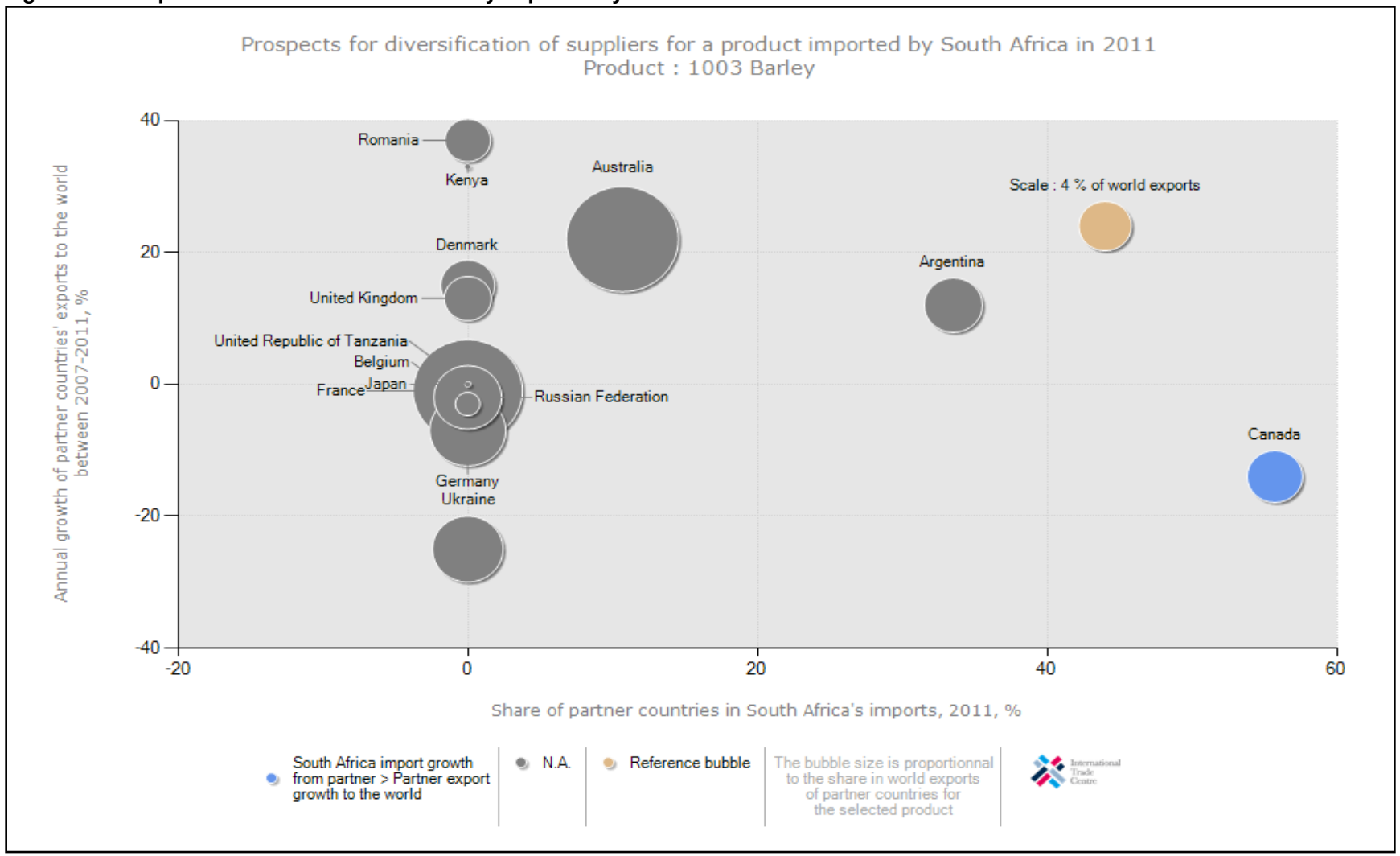
Figure 20: Competitiveness of suppliers to South Africa for barley imports in 2011



Source: ITC Trade Map

Figure 20 above indicates that between 2007 and 2011 South Africa's imports of barley from the Canada grew at a rate faster than the growth in Canada's barley exports to the rest of the world. The value of Canada's barley exports to the rest of the world decreased by about 4% between the year 2007 and 2011 while the value of imports by South Africa from Canada increased by about 67% over the same period.

Figure 21: Prospects for diversification for barley imported by South Africa in 2011



Source: ITC Trade Map

In can be seen in Figure 21 that Canada is the major exporter of barley to South Africa followed by Argentina and Australia. During the year 2011, Canada accounted for about 55.7% of total barley imports by South Africa while Argentina and Australia accounted for 33.5% and 10.7% respectively. If South Africa is to diversify its imports of barley from the world, the biggest markets exist in Ukraine, Germany Russian Federation, Romania and Denmark. During 2011, South Africa imported no barley from most of these countries while they commanded the greatest share of the world's total barley exports. The small import markets for barley imports also exist in Tanzania and Kenya whose exports of barley exports to the rest of the world increased reasonably between 2007 and 2011.

3. ACKNOWLEDGEMENTS

The following organizations are acknowledged:

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ITC Trade Map
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ITC Market Access Map
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